



# Pacific Northwest Laboratory



**BATTELLE - NORTHWEST**  
NATIONAL CENTER OF ENVIRONMENTAL & HEALTH SCIENCE LABORATORIES

**CMA**





# *Introduction*

- Pacific Northwest National  
Laboratory
- History of CMS





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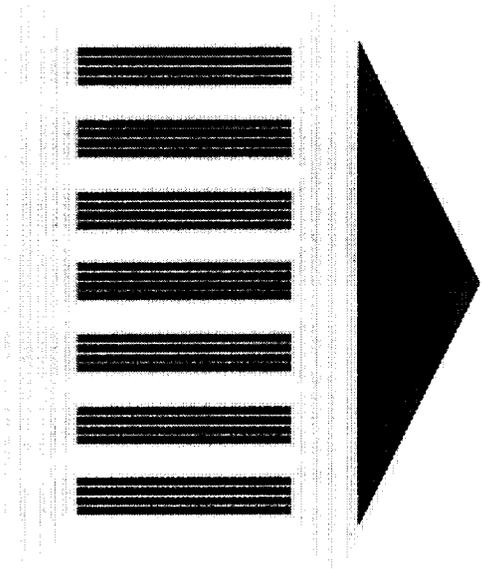
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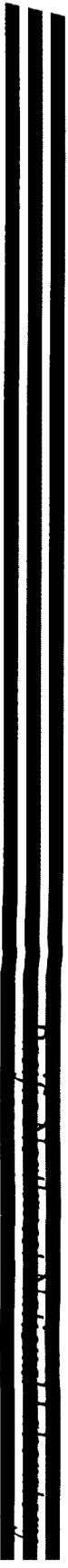
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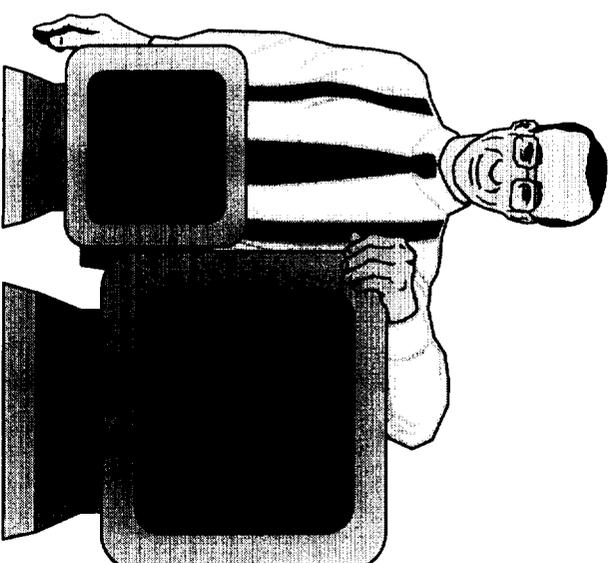


- OSHA
- DOE
- Uniform fire code
- Self-assessment



# CMS Features

- Purchasing
- Inventory
- Chemical Hazard Information
- Intranet tie to MSDS
- Reporting
- Barcoding



# *CMS Uses at PNNL*

- Waste minimization
- Emergency preparedness
- Hazardous material costing
- Environmental regulations
- Hazard communication

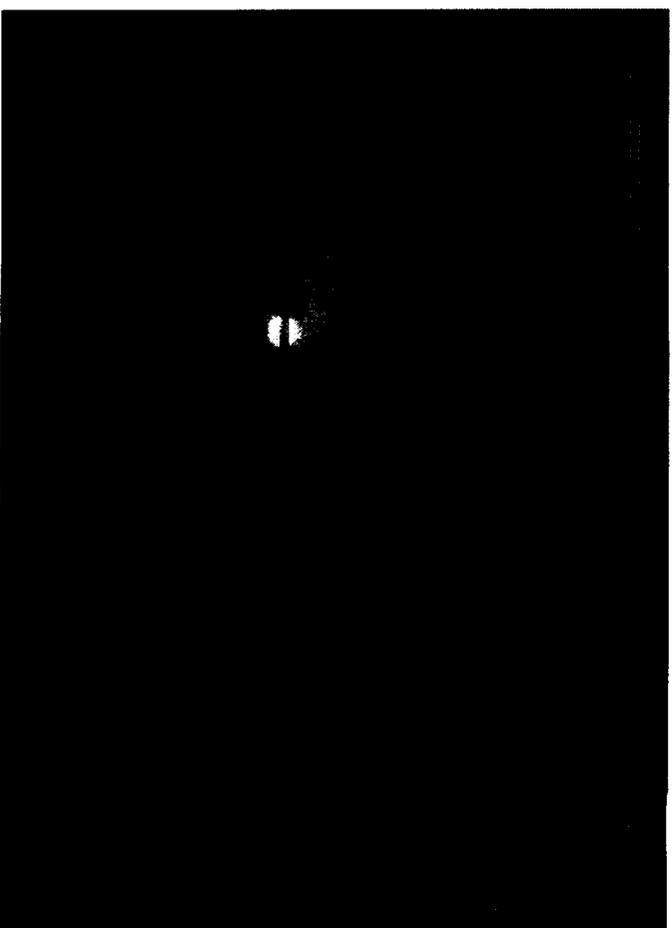




# *Status and Statistics*

- **System statistics**

- 75,000 barcoded chemical containers
- 20,000 distinct chemicals
- 50,000 chemical synonyms
- 150 users





# *Cost of Implementation*

## **Development**

IS&S (information systems & services)	\$450K
other team members	<u>90K</u>
	\$540K

## **Implementation**

lab safety	\$100K
line management	<u>50K</u>
	\$150K

## **Annual costs**

administration	\$75K
line management	<u>75K</u>
	\$150K



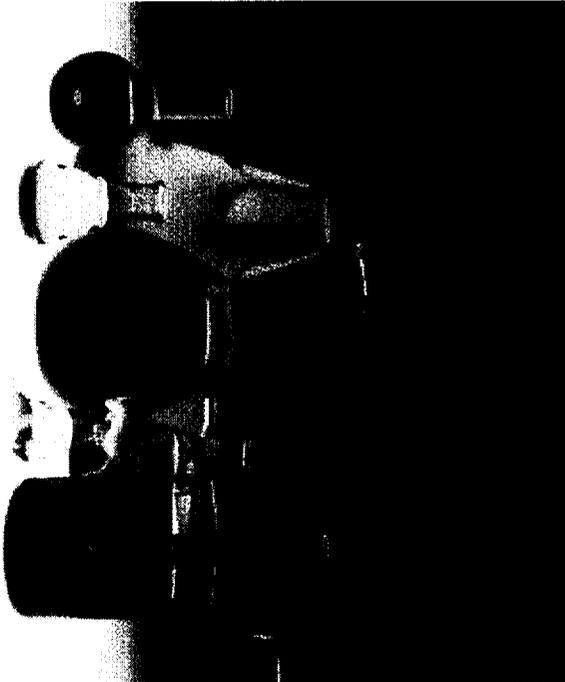
# Benefits

	<i>Annual cost savings (estimated)</i>
<b>Procurement</b>	<b>\$32K</b>
<b>Management</b>	
inventory	\$85K
IS&S support of misc. systems	40K
waste minimization	17K
	<hr/>
	<b>\$174K+</b>



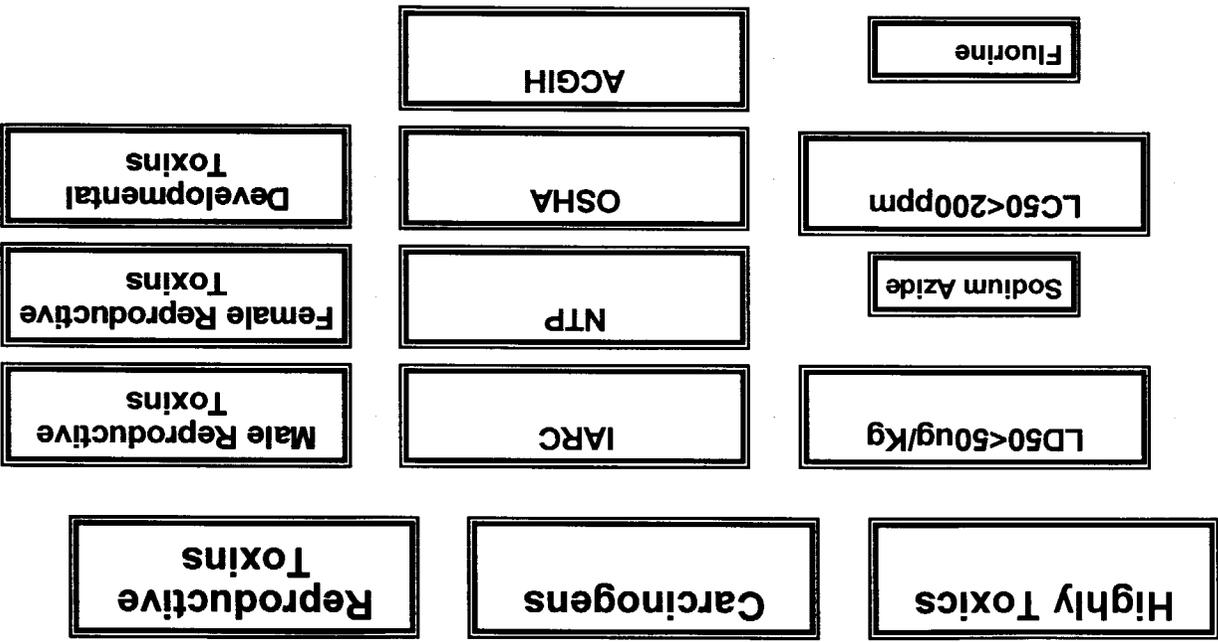


# ORIGIN



# Hazard Groups

## CHEMICALS REQUIRING CHEMICAL SAFETY PROTOCOLS





# *Chemical Management System*

## EARLY HISTORY

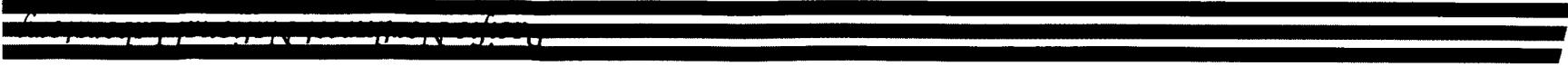
- 1989 - Project Initiated
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- Jan 1991 - Ownership Commitment
  - Process definition/requirements team formed
  - Options analysis team formed
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- May 1991 - Detailed Requirements defined
  - System development and testing
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- Oct 1991 - Phased Roll-out of CMS



# Chemicals Requiring Protocols

HAZARDOUS CHEMICALS REQUIRING PROTOCOLS FOR BLDG: MSL5

RM NO	CHEMICAL NAME	CONT	HAZARD	NUMBER	GROUP	PNL	CHEM NO	CONT	QTY
114	ENDRIN	18441	HIGHLY TOXICS	20246				1 GM	
	METHYLENE CHLORIDE	18753	CHEMICAL CARCINOGENS	20282				4 L	
	PENTACHLOROPHENOL	69706	HIGHLY TOXICS	20528				100 GM	
	POTASSIUM DICHROMATE	69760	CHEMICAL CARCINOGENS	23695				5 LB	
	CADMIUM	69707	CHEMICAL CARCINOGENS	57				473 ML	
		69708	CHEMICAL CARCINOGENS					473 ML	
		69709	CHEMICAL CARCINOGENS					473 ML	
	NEOMYCIN SULFATE	69839	REPRODUCTIVE TOXINS	26397				10 GM	





# Carcinogen Chemical Listing

## CARCINOGEN CHEMICAL LISTING FOR BLDG: MSL5

ROOM NO	CHEMICAL NAME	PNL CHEM NO	CAS NUMBER	MSDS NUMBER	CONTAINER NUMBER	CONVERTED AMOUNT
114	CADMIUM	57	7440439	2232	69807	1.04 LB
	CADMIUM	57	7440439	2232	69807	1.04 LB
	CADMIUM	57	7440439	2232	69807	1.04 LB
	METHYLENE CHLORIDE	20282	75092	1350	18753	11.67 LB
	POTASSIUM DICHROMATE	23695	7778509	1434	69760	5 LB
	POTASSIUM DICHROMATE	23695	7778509	1434	69760	1 LB

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SUM

20.8 LB

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# *Conclusion*

- Powerful tool with many benefits
  - Save dollars
  - Hazard information
  - ES&H compliance
- Implementation phase is critical
  - Management commitment
  - Employee involvement
- Technology
  - Relational database in oracle
  - Barcode containers

